

Swift Trust in Hastily Formed Networks

By Dr. Roxanne Zolin, Primary Investigator
For the Cebrowski Institute, Naval Postgraduate School

Introduction

Social, cultural and organizational differences between U.S. military forces (USMs), multinational forces (MNFs), other U.S. and foreign government agencies (OGAs) and non-government organizations (NGOs) make interactions between members of these organizations engaged in stability, security, transition and reconstruction operations (SSTR) less effective.

There is a wide diversity of organizations and cultures among the community engaged in SSTR. The organizations typically include USMs, MNFs, other OGAs and NGOs.

The events of 911, the Indonesian Tsunami and Hurricane Katrina each revealed fundamental problems with communication, coordination and collaboration between first responders from different organizations, be they military units from different services, different levels of government, nonprofit aid organizations or other agencies. These problems are intensified during post combat SSTR operations conducted in the midst of insurgency, terrorism, and criminality.

Although differences in national and organizational culture contribute to difficulties, cultural diversity is not the only problem.

Increasingly, research is revealing the difficulties of communicating and collaborating across organizational boundaries. Differences in organizational missions, structures and processes, human resources policies, reward systems and cultures create problems that make communication, coordination, cooperation and ultimately collaboration less effective.

Organizations can be viewed as social structures designed to facilitate collective goal achievement. As such they both enable and constrain behavior within and between organizations. Although competition exists within organizations, effective organizations align the behavior of individuals to achieve organizational goals. Recent development of communication technology, such as the Internet, has made inter-organizational virtual teams more common and highlighted the problems of achieving collaboration across organizational boundaries.

Collaboration is described as behavior that attempts to completely satisfy the needs of parties that have dissimilar goals (Mishra, 1996)¹ Collaboration involves both high cooperation, attempting to satisfy the other party's needs, and high assertiveness, attempting to satisfy one's own needs (Thomas, 1979). Thomas also points out that collaboration typically requires problem solving to satisfy both parties and avoid conflict.

During SSTR it is highly likely that, MNFs, OGAs and NGOs will have some congruent goals, such as saving lives or property. It is also likely that they will have some incongruent goals, such as protecting national interests versus aligning with stakeholder groups. These incongruent may require resolution if conflict is to be avoided. For example, the MNF personnel might be

¹ Reference list available on request.

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seeking information, which it is not the role of the OGA official to provide. Lack of time can also make collaborative problem solving difficult.

Many researchers have proposed and shown that trust is needed for cooperation and the information sharing needed to achieve collaborative problem solving (Thomas, 1979; Mishra, 1996). *Swift Trust* is proposed to operate in temporary teams, particularly when there is pressure due to time or importance ascribed to achieving the project goals (Mishra, 1996). This is typical of the context of SSTR.

In this research, *swift trust* is defined as the willingness to rely upon team members to perform their formal and informal roles in a hastily formed temporary team involved in some aspect of SSTR. A form of swift trust could facilitate cooperation and collaboration in SSTR if MNF, OGA and NGO personnel perceive that they are working together in a type of temporary team. Unfortunately, this is unlikely to be the case.

The initial condition for swift trust is that participants perceive that they belong to the temporary team. Even in traditional organizations, members of virtual teams are often unsure who belongs to the virtual team (Mortenson, 2003). It is possible that in SSTR the USM, MNF and NGOs do share the perception that they are working together on a type of temporary team, particularly if they perceive a shared goal, such as economic development.

Theory proposes that swift trust is facilitated by a smaller labor pool from which the temporary team is drawn (Mishra, 1996). In other words, if team members are selected from a close knit community they will be more likely to know each other, know colleagues in common or anticipate that they may have to work together again in the future, all things likely to increase trust (Kramer, 1999).

Unfortunately in SSTR if MNF, OGA and NGO personnel are drawn in from different communities and the various communities are very large. Both of these effects make it less likely that new SSTR participants will know each other, will know others in common or expect to meet again on another team in the future. This lack of personal connection will reduce trust.

Swift trust is also proposed to be facilitated by establishing and communicating clear roles within the team (Mishra, 1996). Here the unpredictable nature of SSTR and participation by members of different communities makes it difficult, if not impossible, to train SSTR community members in their respective team roles, other than those employed by the USM. Nevertheless, in some industries which do not typically invest in training, swift trust can operate through social norms and practices used by experienced workers to informally “train” novices. In the film industry, for example, excessive politeness is used to reinforce acceptable behavior and provide negative feedback on unacceptable practices (Bechky, 2006) .

Therefore, although the process described as swift trust could facilitate collaboration among MNF, OGA and NGO personnel in SSTR operations, many of the conditions and processes leading to swift trust are not present in the typical SSTR context, but there is an opportunity for USMs to implement collaboration training for USM personnel.

In fact an analysis of military leadership, doctrine, protocols, procedures and culture seems to indicate that military culture has developed to engender swift trust among members of the Service to quickly form temporary teams and collaborate to achieve their mission. As Army leaders progress upwards from direct leadership to organizational and strategic levels of leadership, they must operate across organizational and national boundaries and develop swift

trust with members of other Services and Allied nations (Army Leadership Field Manual No. 22-100). While individual services can quickly form teams internally and work collaboratively to achieve their mission, Joint and international temporary teams are not always so successful in developing swift trust, due to the previously mentioned differences in culture, goals, experiences, stereotypes and ideologies. In fact, the high cohesiveness and strong culture of military teams can make it difficult to develop trust across the organizational boundaries of Joint, multi-organizational and multi-national teamwork found in SSTR.

Therefore, our research question is what are the principles of successful inter-organizational interactions in SSTR and disaster response?

We appreciate that interagency interactions typically involve cross-cultural communications and other forms of diversity such as age, sex, religion, profession etc. This research is informed by those issues but focuses on inter-organizational issues to avoid confounding the issues.

Methodologies

This section describes our major methodologies for answering the research question.

We have collected data from US and allied international military officers about their experiences working together in hastily formed teams. Open and closed questionnaires were combined with a social network analysis to determine how stereotypes of national culture may have influenced patterns of collaboration.

Following Hurricane Katrina structured interviews were conducted with surviving organizations to determine what contributed to their survival and make recommendations to Governments and first responders.

We have conducted ethnographic observations and structured interviews during the Strong Angel III Disaster Response Demonstration in San Diego, August 2006.

Conclusion

Creating trust across organizational boundaries is a challenge to all organizations, no less the military engaged in the delicate SSTR operations. This research provides a methodology for identifying best practices and sharing them in a convenient, timely manner.

Related Work by the Primary Investigator

Dr. Roxanne Zolin, has conducted research on trust in cooperative work for over 9 years. Her PhD at Stanford University investigated interpersonal trust in cross-functional and geographically distributed teams. She is motivated by the research questions such as what influences people in organizations to trust and how does trust effect performance in different organizational contexts, particularly military organizations?

Summary of findings:

Our results suggested that cross-functional, geographically distributed workers may rely on early impressions of perceived trustworthiness when evaluating how their distant partners are delivering on commitments, because reliable information about actual follow-through is lacking or difficult to interpret. Consistent with this, we found that perceived trustworthiness, perceived follow-through and trust were relatively stable over time (Zolin et al, 2004).

We found evidence that co-workers perceive one another to be less trustworthy when they are distributed as compared with collocated. We also found that trust is more stable in distributed dyads – it increases less, but it also decreases less than in collocated dyads. (Zolin & Hinds, 2004)

We found that in inter-organizational new product development teams buyer representatives and supplier representatives trust differently. As these teams move from hierarchy to clan or network organization management needs to consider how to encourage norms of trust for these two different roles (Zolin & Dillard, 2005).

Virtual teamwork was found to have positive as well as negative effects on trust, while virtual organization had only negative effects. Geographic distribution reduced task interdependence, personal communication, perceived trustworthiness and trust. The cross-functional nature of virtual teamwork increased perceived trustworthiness, supporting the theory of *Swift Trust*. Virtual organization coworkers were more likely to be geographically distributed, to have lower task interdependence and to have less personal communication and to miss out on the benefit of *Swift Trust* from being cross-functional. (Zolin and Dillard, 2005)

We found that trustor's perceptions of the trustee's follow-through and ability matched the project manager's assessment of the trustee. But we found that Trustors in distributed dyads rated the ability of their partners lower than the project manager. Finally, we found that Trustors in dyads with discipline diversity assessed the trustee's ability and perceived follow-through higher than those in the same discipline. (Zolin, In Draft a)

Trusting improved the trustor's process performance in terms of better flexibility, information sharing, problem solving and creativity, but had a negative effect on the trustor's output performance. In contrast, being trusted improved the trustee's output performance in terms of better time, cost and quality without affecting the trustee's process performance. (Zolin, In Draft b)

We found that quality of information had a greater impact on trust than the quantity of information. Trust was more strongly associated with the organization's culture of openness for non-supervisors than for supervisors. Finally, supervisor's participation was mainly influenced by the quality of information received from their boss, while for non-supervisors participation was mainly influenced by the organization's culture of openness. (Thomas and Zolin, In Press)

The research project Swift Trust between Military Officers in Temporary Groups was conducted at the Naval Postgraduate School during 2006. Newly arriving U.S. and international military officers were surveyed to determine their knowledge of each others' cultures and how their stereotypes influenced the formation of project teams. A social network analysis was conducted showing the patterns of relationship as they developed during their first quarter working together.

The research project Strong Angel – Swift Trust was conducted during the Strong Angel III² Disaster Response Demonstration. Strong Angel III was an international disaster response demonstration held in San Diego, California, from 21 to 26 August, 2006. During the demonstration approximately 800 participants from 200 organizations participated in an activity designed to replicate a flu pandemic for the purposes of testing communications, technology and social networks. Interviews were conducted with USMs and NGOs. The preliminary results of this research project indicated difficulties in establishing interpersonal working relationships

² <http://www.strongangel3.net/>

between USMs and NGOs due to perceived differences in organizational goals, strongly held negative organizational stereotypes of the other organizations and perceived ideological differences between members of the two groups. A group discussion between USMs and NGOs indicated that USM believe that NGOs lack appreciation for the military's help and protection, while NGOs say the military hears, but does not listen (Strong Angel III, 2006).

Reference list

Bechky, B.A. (2006) Gaffers, gofers and grips: Role-based coordination in temporary organizations. *Organization Science* 17, 3-21.

Hinds, P.J. and Mortensen, M. (2005) Understanding conflict in geographically distributed teams: The moderating effects of shared identity, shared context, and spontaneous communication. *Organization Science* 16, 290-307.

Kramer, R.M. (1999) Trust and Distrust in Organizations: Emerging Perspectives, Enduring Questions. *Annual Review of Psychology* 50, 569-98.

Mishra, A. (1996) Organizational Responses to Crisis: The Centrality of Trust. In: Kramer, R.M. and Tyler Tom R., (Eds.) *Trust in Organizations*, pp. 261-287. Thousand Oaks, CA: Sage Publications, Inc]

Mortensen, M. (2003) Antecedents of boundary disagreement in distributed and collocated teams. Proquest Dissertations And Theses 2003.. Stanford University, Stanford, California, USA.

Petraeus, David H. (2006) *Military Review*. Fort Leavenworth: 86(1) 2-13.

Thomas, K. Organizational conflict. In: Steven Kerr, (Ed.) *Organization behavior*, pp. 151-181. New York: John Wiley

Zolin, Roxanne, (In draft a), "Diversity and trust attributions in virtual teams. How differences in discipline, location, organization and task interdependence effect perceptions of ability and follow-through."

Zolin Roxanne, (In draft b), "Interpersonal trust and individual performance: The difference between trusting and being trusted."

Zolin, Roxanne (In Press) Trust in virtual organizations and virtual teamwork:

Zolin, Roxanne, Dillard, John (2005), Trust in Defense Acquisition. Acquisition Research Symposium, May 2005, Naval Postgraduate School, CA.

Zolin, Roxanne, Hinds, Pamela J., (2004) Trust in Context: The development of interpersonal trust in geographically distributed work, In Trust and Distrust in Organizations, Eds. Roderick M. Kramer, and Karen Cook for Russell Sage Foundation: New York.

Zolin R, Hinds P. J., Fruchter R., Levitt R. E. (2004), Interpersonal trust in cross-functional, geographically distributed work: A longitudinal study. *Information and Organization*, 14(1), 1-24.

Dr. Roxanne Zolin

EDUCATION

2002 **Stanford University**, Stanford, CA
Ph.D. in Construction Engineering Management

2001 **Stanford University**, Stanford, CA
Master of Arts in Sociology

1991 **Monash University**, Vic, Australia
Master of Business in Marketing

1980 **Queensland Institute of Technology**, (now Queensland University of Technology) QLD, Australia
Bachelor of Business in Management

AWARDS

2005 Coleman Scholarship Award, USASBE
United States of America Small Business and Entrepreneurship award for first year conference paper.

2002 Stanford Engineering, Science, and Math Opportunity Job Fair.
My graduate research project was selected to showcase research in the Engineering School.

1983 Grand Prix Award, Sales Promotion Association of Australia
A national award received for the best promotion of the year. The “Homes Wanted” promotion, one of the first premium item campaigns conducted in Australia, offered a cute little stuffed toy dog for each deposit of over \$500. The average deposit was over \$2,000.

1983 Best Small Budget Award, Sales Promotion Association of Australia
A national award received for the best small budget promotion of the year. The \$50,000 promotion brought in over \$22 million investments in 10 weeks.

1983 Best Financial Services Award, Sales and Promotion Association of Australia
A national award for the best financial services promotion of the year.

1979 McDonell & East Retailing Award, Queensland University of Technology
Awarded for receiving the best marks in the subject “Dynamics in Retailing”.

PUBLICATIONS

Kropp, Fredric and Zolin, Roxanne (2005) Technological Entrepreneurship: The Role of Small Business Innovation Research, Programs *Academy of Marketing Review*, 2005(07)
<http://www.amsreview.org/articles/kropp07-2005.pdf>

Sekerka, Leslie E. and Zolin, Roxanne (2005) Professional Courage in the Military: Regulation Fit and Establishing Moral Intent. *Business & Professional Ethics Journal*, 24(4).

Lewis, Ira and Zolin, Roxanne (2004) “The Public to Private Continuum Measure and the Role of Stakeholder Boards as a Proxy for Markets in the Governance of Air Navigation Services,” *International Public Management Review*, 5(2)
<http://www.unisg.ch/org/idt/ipmr.nsf/>

Zolin, Roxanne, Hinds, Pamela J., (2004) Trust in Context: The development of interpersonal trust in geographically distributed work, In *Trust and Distrust in Organizations*, Eds. Roderick M. Kramer, and Karen Cook for Russell Sage Foundation: New York.

Zolin R, Hinds P. J., Fruchter R., Levitt R. E. (2004), Interpersonal trust in cross-functional, geographically distributed work: A longitudinal study. *Information and Organization*, 14(1), 1-24.

Zolin Roxanne, Fruchter R and Levitt R. E. (2003), Realism and Control? Key Characteristics of Problem-based Learning Environments as a data source for work-related studies, *International Journal of Engineering Education*, 19(6) 788-798

PEER REVIEWED PRESENTATIONS

Zolin, Roxanne and Kropp, Fredric (2006) The effect of government research programs on commercializing technologies. *International Council for Small Business World Conference*, Melbourne, 2006.

Sekerka, L. E. and Zolin, R. (2006) Can Rules Be Bent with Prudential Judgment? How Compliance May Be Deriding Values in the Department of Defense. *Prudential Judgment, Public Policy, and the Catholic Social Tradition Conference*. Terrence J. Murphy Institute for Catholic Thought, Law, and Policy, University of St. Thomas, School of Law , Minneapolis, MN. April 6-8, 2006.

Zolin, Roxanne and Lewis, Ira (2006) *The birth of new enterprises: public or private by genetics or by design?* U.S. Association for Small Business and Entrepreneurship (USASBE), Presented by R. Zolin, Jan. 2006.

Zolin, Roxanne, (2005) Market, hierarchy and clan: Are trust and control compliments or supplements when crossing organizational boundaries? *EIASM Conference* October 2005, Amsterdam.

Zolin, Roxanne (2005) What new visions of trust can the Mayer, Davis and Schoorman model provide in the 21st century? Symposium organizer and facilitator, Academy of Management, August 2005.

Sekerka, L. E., Zolin, R., Simon, C, (2005) *Change Now Because I Say So! --- Specialized Management Identity and Coercive Rapid Transformation*, Academy of Management Conference, August 2005.

Zolin, Roxanne and Kropp, Fredric (2005) Technological Entrepreneurship: The Role Small Business Innovation Research (SBIR) Programs Play in Developing and Commercializing Technologies *International Conference on Small Business 50th World Conference* in Washington, June 2005.

Zolin, Roxanne, Dillard, John (2005), *From Market to clan: how organizational control affects trust in defense acquisition*. Acquisition Research Symposium, May 2005, Naval Postgraduate School, CA.

Lewis, Ira and Zolin, Roxanne (2004) *The Public to Private Continuum Measure and the Role of Stakeholder Boards as a Proxy for Markets in the Governance of Air Navigation Services*, International Academy of Management and Business, Las Vegas, NV.

Zolin, R. (October 2003) “*Context is everything: Empirical research into the antecedents to trust in different contexts*” European Institute of Advanced Studies in Management (EIASM) Workshop on Trust Within and Between Organizations

Zolin R, Hinds P. J., Fruchter R., Levitt R. E. (2001), *Trust In Cross-Functional Global Teams*. At Organization Science Conference, Milan, Italy

Zolin, Roxanne, Fruchter, R., and Levitt, R. E. (2000) *Simulating the Process of Trust: Using simulation to test and explore a social process*. Computational Social and Organizational Science Conference.

Zolin, Roxanne, Fruchter, Renate, and Levitt, Raymond E. (2000) *Building, Maintaining And Repairing Trust In Global AEC Teams*. International Conference on Computers in Civil and Building Engineering.

Zolin, Roxanne (1998) *A Taxonomy of Simulation: Can it help researchers identify logical simulation partners for docking and interlocking?* Computational and Mathematical Organization Theory, INFORMS.

PRESENTATIONS

Zolin, Roxanne (2006) Strong Angel – Swift Trust. Preliminary results in the study of trust in disaster response. Presented at the Cebrowski Institute, September 7, 2006.

Zolin, Roxanne and Kropp, Fredric (2006) The effect of government research programs on commercializing technologies. Adelaide University, South Australia. Presented by Roxanne Zolin on June 14, 2006.

Zolin, Roxanne and Kropp, Fredric (2006) Assisting business survival: How governments can help businesses weather a cataclysmic disaster. *Australian Defence Force Academy*, Canberra, Australia, Research Seminar, Presented by Roxanne Zolin on May 26, 2006.

Zolin, Roxanne and Gibbons, Deborah (2006) Strong Angel – Swift Trust. Presentation of a preliminary research proposal for the study of trust in disaster response. Presented at the Cebrowski Institute, April 11, 2006.

Zolin, Roxanne (2005) Trust in networks, for the program “International Defense Transformation “ offered by Center for Civilian-Military Relations in partnership with Headquarters Allied Command Transformation (HQ ACT) and the Commander, Joint Forces Command (JFCOM) Joint Experimentation Directorate. December 2005.

Zolin, Roxanne and LCDR Creighton, Beth (2005) How do you measure the performance of a large complex system without shifting costs? A simulation solution. Presented to NAVAIR Enterprise AIRSpeed Program Office, Patuxent River, MD. November, 1002.

Zolin, Roxanne, (2005) Why do some virtual collaborations fail, while others succeed? Defence Science and Technology Organization, Canberra, Australia.

Sekerka, L. E., Zolin, R., Simon, C, (February 27, 2005) *Change Now Because I Say So! --- Specialized Management Identity and Coercive Rapid Transformation at a Military University*. Australian Defence Force Academy, Canberra, Australia, Research Seminar, Presented by Roxanne Zolin.

Zolin, Roxanne, (2004) Outsourcing to China, a trust perspective. Carmel Valley Rotary Club, Carmel Valley, CA.

Zolin, Roxanne (2004) Studying the A in VV&A. VV&A Technical Working Group Meeting, NAVISMO, San Diego.

Zolin, R. (2004) Military Marketing: Above and beyond the call of duty. Presented to RADM Milliken, Deputy Assistant Secretary of the Navy, Navy International Programs Office, Washington D.C.

Zolin, R. (2004) Successful Innovation in Military Markets. Presented to NAVAIR's SBIR, Washington DC.

Zolin, R. (October 2003) "Empirical research into the antecedents to trust in Military IPTs". Presentation given to Defense Acquisition Career Management (DACM), Pentagon.

Zolin, R. (October 2003) "Context changes everything: Empirical research into the antecedents to trust in different contexts" Stevens Institute of Technology, Hoboken, NJ

Zolin, R. (2003) "Context is everything: Empirical research into the antecedents to trust in different contexts" presented at:

- Australian Defence Forces Academy, Canberra Australia (July 2003)
- Department of Science, Technology and Organization, Canberra, Australia (July, 2002)
- Department of Science, Technology and Organization, South Australia, Australia (August, 2003)

Zolin R., Fruchter, R. and Hinds P. J., (2002) "*Modeling and Monitoring Trust in Virtual A/E/C Teams*," presented at the Center for Integrated Facilities, Stanford University.

WORKING PAPERS AND TECHNICAL REPORTS

Zolin, Roxanne and Denning, Dorothy (2006) Principles of Reachback: A systems engineering approach to organizational changes required to implement feasibility studies for the study of opportunities to minimize the forward footprint. Presented to U.S. Joint Forces Command (JFCOM, J-8).

Lewis, Ira and Zolin, Roxanne, (2006), The role of trust in organizational change. An international comparative case study of Air Traffic Control in the United States and Australia. Teaching Case Study for International Military Education and Training.

Zolin, Roxanne and Dillard, John (2005), From Market to Clan: How Control Mechanisms Affect Trust in Defense Acquisition. Working Paper, Naval Postgraduate School, CA.

Sekerka, L. E., Zolin, R., Simon, C, (2005) *Specialized Management Identity and Coercive Rapid Transformation in a Defense University*, Naval Postgraduate School Technical Report.

Zolin R., Hinds P. J. and Fruchter R (2003), Communication, Trust and Performance: The Influence of Trust on Performance in A/E/C Cross-functional, Geographically Distributed Work, Stanford University, CA, Center for Integrated Facility Engineering. Working Paper No. 78.

Zolin, Roxanne, Modeling and Monitoring Trust in Virtual A/E/C Teams. (2000), Stanford University, CA, Center for Integrated Facility Engineering. Working Paper No. 62

Zolin R, Hinds P. J., Fruchter R., Levitt R. E. (2002), Trust In Cross-Functional Global Teams. Stanford University, CA, Center for Integrated Facility Engineering. Working Paper No. 66

Zolin Roxanne, Fruchter R and Levitt R. E. (2002), Realism and Control? Key Characteristics of Problem-based Learning Environments as a data source for work-related studies, Stanford University, CA, Center for Integrated Facility Engineering. Working Paper No. 67

UNIVERSITY AND TEACHING EXPERIENCE

2002 - present **Naval Postgraduate School**, School of Business and Public Policy, CA.

Assistant Professor and Course Coordinator

Designed and presented Seminar in Defense Management, a project based course capstone of the EMBA. Co-taught Acquisition of Software for Weapon Systems.

2001 **Distributed Education Developer**, Stanford Center for Professional Development, Stanford University, Stanford, CA

Created evaluation instruments for modules "Managing Without Authority" in the distributed executive training course "Advanced Project Management".

1999 - 2002 **Research Assistant**, Civil Engineering Department, Stanford University, Stanford, CA

Assisted with the administration of a distributed project based learning subject. Developed web pages to facilitate student interaction with faculty and industry mentors and collect research data.

2000 **Advanced Visual Basic Teacher**, San Francisco State University, San Francisco, CA

Presented the advanced modules of a Visual Basic course covering ActiveX components, controls, DLLs and EXEs, Objects and Classes, Data-aware Objects, Accessing oracle, Data Environment and Stored Procedures.

1999-2001 **Teaching Assistant Mentor**, Civil Engineering Department, Stanford University, CA

Presented topics in the subject TA 200 for Teachers' Assistants. Contributed to course planning.

1998 - 1999 **Teaching Assistant**, Civil Engineering Department, Stanford University, Stanford, CA

Assisted in the design, administration, grading, and presentation of the graduate course "Organizational Design of Projects and Companies". Published course materials and information on the course Intranet site.

1998 - 1999 **Research Assistant**, Civil Engineering Department, Stanford University, Stanford, CA

Extended and upgraded The Organizational Consultant, a computer based expert system for strategic organizational diagnosis and design created by Richard Burton of Duke University and Borge Obel of Odense University.

1982 to 1991 **Lecturer**, Monash University, Aust., R.M.I.T., Aust., Qld. Institute of Technology, Aust.

Lectured part-time in Marketing, Market Research, Applied Marketing, Product Management, Advertising, Marketing Services, Marketing in the Fashion Industry and Business Ethics

BUSINESS AND SOFTWARE DEVELOPMENT EXPERIENCE

1997 to 2001 **Software Developer and Programmer**

Persona Computing for Pacific Gas and Electricity Company

Designed, specified and programmed a Contract Tracking and Reporting system for PG&E using Access for the user interface and reports. Provided a Boolean Search facility and designed a superior installation system.

Advanced Technology Staffing for Corsair Communications

Internationalized two Visual Basic applications running on Windows 95, 98, NT and Chinese Windows 95 and 99. Developed a language DLL. Completed a three-month project in two months.

PC Personnel for Bain & Co.

I designed, specified and programmed a software application that gathered HR data from the network and provided the facility to search for consultants with particular skills and interests. Managed and trained the software testing team.

PC Personnel for Mercer Management

Programmed extensions to a database that provided information and analysis to insurance claim assessors for Mercer's client, Fireman's Insurance.

1992 to 1997 **Educational Software Developer**, Executive Information Services Pty. Ltd., Vic, Aust.

As a self-employed business partner I worked on a team that designed, specified and programmed "The Factory MicroWorld", a business simulation for training purposes. Designed, specified and programmed "MicroMoney", a computer based simulated accounting department for accounting training purposes. Developed course materials and worked with clients to design effective educational programs.

1988 to 1991 **Trainer and Consultant**, Marketing Visions Co., Vic, Aust.

As a sole trader I practiced as an independent consultant specializing in new business development. Helped start over 500 new businesses. Presented specialized workshops such as "How To Earn A Living As An Artist" and "Marketing Your Hairdressing Salon". Launched the One Stop Business Shop with bookshop, training rooms and professional services.

1980 to 1987 **Marketing Manager**,

Companies such as Suncorp Building Society, Myers Stores, Ltd., Fisher-Price Toys (Aust.), Northern Permanent Building Society and Duesbury's Chartered Accountants.

Part of the marketing team launched the first public Automatic Teller Machines in Australia. Organized the major sponsorship of the Trial Commonwealth Games in Australia (1982). Planned and implemented a financial services promotion, which brought in \$22,000,000 in six weeks and won three Australian Sales Promotion Awards. Implemented the introduction of new financial services such as automatic bill paying and telephone bill paying. Planned and organized a direct mail promotion that increased sales of check accounts by 500% in one month. Managed advertising budgets up to \$2,000,000 p.a. Participated in managing budgets up to \$40,000,000 p.a.